

We claim:

1. A catalyst for clean pulping, characterized in that the wt % composition of said catalyst includes:

sodium salicylate: 5%- 9%; anion silicic acid softener: 2%- 5%;

5 cooking aids: 3% - 7%; liquid chlorine or gaseous chlorine: 2.1%- 3.7%; the remaining: water;

wherein said cooking aids includes:

hydrone volatile: ethanol and/or ether: 0.01-5%;

free quinone: concentrated sulfuric acid and/or carbon tetrachloride: 0.25-
10 35%; active matter: basic Na₂SO₃: 0.15-30%; the remaining: water.

2. The catalyst for clean pulping according to claim 1, characterized in that said cooking aids is the solution which is the mixture of the emulsion with the concentration of 3% and pure water, wherein said emulsion is formed of the raw material of cooking aids.

15 3. A process for using the catalyst for clean pulping according to claim 1, characterized in that all kinds of herbs are used as the raw material and the following steps are included:

a) cutting and impurities removing:

the raw material is cut into pieces with the length of between 10mm and
20 15mm, the removal rate of remaining fringe, kernel as well as dust is above 95%;

b) feed preparation and impurities removing:

the raw material is soaked in the catalyster to prepare for 10-14 hours, the dry weight of raw material is 3-8% of catalyster weight, the deposition and impurities removing are proceeded through a deposition channel provided at

5 the bottom of the bath for the feed preparation and impurities removing;

c) dividing into fibers by refining:

the raw material is divided into fibers through the refining disc so that it is changed to rough fiber bundle;

d) catalysis copolymerization:

10 the pulp enters into catalysis tower to perform catalysis copolymerization reaction for 10-14 hours at the normal temperature and pressure;

e) refining:

the pulp is grounded into the required papermaking stock through refiner;

f) concentration and separation:

15 the pulp and catalyster are separated by a thickener, the papermaking stock with different concentration may be separated according to the requests, while the residual liquor of the catalyster is recovered;

g) pulp bleaching :

the bleaching is proceeded by conventional bleaching equipment;

20 h) pulp washing:

the bleached pulp is washed in the conventional pulp washing vessel, then the

finished pulp is obtained.

4. The process for using the catalyzer for clean pulping according to claim 3, characterized in that a submerged mesh is arranged on the bath for the feed preparation and impurities removing.

5 5. The process for using the catalyzer for clean pulping according to claim 3, characterized in that calcium hypochlorite is used for bleaching liquor, and the supplying port of chlorine gas is added at the recycle entrance of fan pump, through which the chlorine gas is added intermittently during the bleaching to increase the available chlorine in the whole bleaching liquor so
10 that the available content of bleaching liquor can remain constant during the whole bleaching process.

6. The process for using the catalyzer for clean pulping according to claim 3, characterized in that said herbs include wheat straw, rice straw, straw stem, corn stalk, cotton straw or reed.

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